

SEA STAR

WASHINGTON
SEA GRANT

Spring 2020

NEW FELLOWSHIPS

Creating opportunities to reach more diverse students PAGE 3

DEI WORKGROUP

A commitment to diversity, equity and inclusion PAGE 4

FIELD NOTES

COVID-19, seaweed farming and Indigenous Aquaculture PAGE 6

LOG JAMS

A tool for helping salmon PAGE 7



RUSSELL CALLENDER

WASHINGTON SEA GRANT (WSG) has made a focus on diversity, equity and inclusion (DEI) an integral part of our culture. A commitment to DEI infuses our identity and our approach to our programming and is part of the daily fabric of who we are as an organization. We have developed a DEI values

statement (see page 4) that demonstrates WSG is not only working to incorporate DEI principles internally, but are also consciously working to bring DEI concepts to the larger Washington community. We have also developed a roadmap to guide our DEI commitments and actions for the next ten years.

This issue of Sea Star features stories that we hope will give you a sense of how we weave these concepts into all that we do—from expanding fellowship opportunities to historically underrepresented groups to helping ensure the safety of passengers with disabilities on a small cruise ship. Our story on engineered log jams includes a partnership with a local tribal nation, highlighting critical best practices for working with Indigenous communities, which is one of our core DEI strategies.

While we are proud of the DEI work we have done so far, we recognize that we need to continually strive to improve. We welcome feedback on how we can continue to do better.

W. RUSSELL CALLENDER, *Director,*
Washington Sea Grant

WRC4@UW.EDU

MAKING ADVENTURE ACCESSIBLE

SEA WOLF ADVENTURES TAKES PASSENGERS WITH DISABILITIES TO THE PACIFIC NORTHWEST'S MOST BEAUTIFUL PLACES

KIMBER OWEN, OWNER OF SEA WOLF ADVENTURES,

has an exceptional memory for the people that she's taken on her 12-passenger cruise ship, which frequents Pacific Northwest jewels such as the San Juan Islands and Glacier Bay National Park. There was the police officer who wanted to propose to his girlfriend but, fearing he wouldn't be able to keep up with her, was scared to pop the question. There was the almost 30-year-old man on the trip with his parents, who was struggling to strike out on his own. There was a mother who could never figure out what kind of vacation her whole family would be able to go on and enjoy—until she signed them up for a trip on the Sea Wolf.

These are seemingly ordinary concerns, but all of these former Sea Wolf passengers share something that makes many of life's quandaries more difficult: they are disabled. Despite the challenges these passengers may face, Owen's mission is to ensure they have access to the inspiring places that she visits. "Nobody should be denied anything of nature," Owen says. Washington Sea Grant (WSG) is proud to offer first aid and sea safety training to the crew of Sea Wolf Adventures, which helps Owen accomplish her mission while keeping passengers and crew safe.



SEA WOLF • CONTINUED ON PAGE 2



Beyond the access to stunning landscapes and adventures, these trips also offer the opportunity to build community.

Owen first witnessed the benefits of getting out into nature when she owned and operated a therapeutic horse farm in Texas with her late husband in the 1980s and 90s. The impact she felt she was able to make in this work prompted her to decide to run a tourism boat for people with disabilities. She was scouting the docks in Bellingham, Washington, for a vessel that might serve this purpose, when she came upon an old harbor mine sweeper for sale.

The boat was beautiful. It was one of 70 wooden mine sweepers built in Antioch, California, in 1941—a couple of years before they started making this type of boat from steel. Originally called the USS Observer, the boat served in San Francisco until 1947, where it would sweep for mines and then pull a net across the harbor so that U-boats and other submarines couldn't get in. The vessel was painted in all black with machine guns on her bow and stern.

By the time Owen first saw the boat in 2003, it had already lived multiple lives. In the early 1950s, it served as a glamorous party boat for a wealthy family who took it to faraway destinations, including the Galapagos Islands. A conservation non-profit found the boat abandoned in Mexico, and purchased it to bring to Alaska to start conservation tourism in the Tongass National Forest. The boat was then bought by a crab fisherman in Bellingham, who decided to sell after only a few months. That's when Owen found the classic vessel.

When Owen first toured the Sea Wolf's decks, she thought that it wasn't the boat she was looking for after all. The walkways were too narrow to allow for wheelchairs to pass, and she thought the final price would be out of her budget. But later, the owner called her. "I

really believe in your vision," he said. "And I think we can make this work." Owen decided to go for it.

She worked with Mike Passo, an adventurer with paraplegia who ran kayak and camping trips in the San Juan Islands, to come up with a plan for how to make the Sea Wolf accessible, including widening the walkways. Now, three of the boat's six state rooms are wheelchair accessible, and it includes features such as a wheelchair elevator to get onto the upper deck. While the Sea Wolf doesn't qualify as fully ADA compliant, Owen says many passengers have told her the boat's setup is better than ADA. "We call it visitability," Owen says.

These efforts have not gone unnoticed. In 2011, Sea Wolf Adventures won the National Park Service National Accessibility Achievement Award, an honor awarded to Owen in Washington, D.C. In 2015, Sea Wolf Adventures also won the National Park Service Environmental Achievement Award for Owen's commitment to conservation-driven tourism.

Today, Owen works with Craig Hospital, a rehabilitation and research center for patients with spinal cord and brain injuries, offering a yearly trip for the center's patients. The Sea Wolf is equipped with adaptive gear so that these passengers can get out on the skiff or even paddle a kayak. Beyond the access to stunning landscapes and adventures, these trips also offer the opportunity to build community. "[The passengers] talk about their injuries and how their lives have been impacted," Owen says. "It's really beautiful." In addition, Owen takes disabled passengers on trips on the Sea Wolf throughout the year; most passengers learn about the boat through word of mouth.

Word of mouth is also how Owen learned about the first aid at sea and safety trainings run by Sarah Fiskin, marine operations specialist at WSG. Owen and her crew first took one of Fiskin's courses in 2003, and they continue to take the training every two years. While many vessel operators might only enroll their captain in sea safety training, Owen insists that her whole crew sign up. "If something were to happen, I want everyone to know what to do," she says. "Practice doesn't make perfect, but it does make you more comfortable." The courses have been adapted to suit the needs of all Sea Wolf passengers: for example, the training might include a fire drill in which someone on board is in a wheelchair, or it might include a practice that involves getting someone into a survival suit who is unable to do it for themselves.

This type of preparedness ultimately fosters the confidence that can lead to pivotal experiences. The police officer who was scared to propose to his girlfriend? A few months after he returned, they were married. The young man frustrated that he was still living with his parents? Within a year, he moved into a place of his own.

"This boat changes peoples' lives," says Owen. 



EXPANDING OPPORTUNITIES FOR STUDENTS THROUGH FELLOWSHIPS

THE NEW KEYSTONE FELLOWSHIP AND UNDERGRADUATE SCIENCE COMMUNICATIONS FELLOWSHIP AIM TO REACH A BROADER AND MORE DIVERSE GROUP OF STUDENTS AND RECENT GRADUATES

BY BOBBIE BUZZELL, WSG SCIENCE COMMUNICATIONS FELLOW



Deborah Purce

"FOR OVER 40 YEARS,

Washington Sea Grant has played an important role in cultivating the next generation of marine science and policy professionals," says Deborah Purce, fellowship and research specialist for Washington Sea Grant (WSG). WSG fellowships provide students and recent graduates with opportunities to gain real-world experience in marine research and policy at state, national and international levels. In a competitive job market, this real-time experience gives many fellows a jumpstart to their careers.

While the fellowship program is robust, WSG is seeking ways to expand and diversify what it has to offer. As part of a 10-year road map to increase diversity, equity and inclusion (DEI) across all of its programs, WSG recently took a closer look at its current fellowship opportunities and who has benefited from them. It quickly became clear that opportunities for undergraduates and more diverse groups were needed. For example, if you go to the WSG current and recent fellow webpage, a homogenous pattern emerges, with photos of primarily white female graduate students.

WSG is asking hard questions about how to expand its fellowship programs, such as: *What are the barriers potential applicants may face?* "Over the past two years, WSG has begun to think comprehensively about equity and inclusion and has made it a priority to broaden participation in our valuable and highly regarded fellowship programs," Purce says.

"Keystone" is a term originally coined for the slab of stone at the top of an arch, locking the supporting stones in place. Without that stone, everything falls apart. Later, the term was used by Robert T. Paine to describe a species that has a disproportionately large influence relative to its abundance within a biological community. These definitions are a perfect way to describe the importance of DEI in the marine science and policy field. Similar to the Knauss and WSG Hershman fellowships, the new WSG Keystone Fellowship Program matches fellows with host organizations. However, the new fellowship has a greater focus on

recruiting, retaining and engaging students and recent graduates who represent the social diversity of coastal communities that WSG works within.

Enter Adrienne Hampton, the inaugural Keystone Fellow. Hampton, who identifies as a woman of color, says "the opportunity is creating access into the marine science and policy landscape where significant disparities in the representation, content, and processes for implementing DEI exist."

The fellowship paired Hampton with the Seattle Aquarium, where she uses an environmental justice lens to inform local and national policy. Hampton advocates for "expanding the array of ocean health advocates" to increase the diversity of voices represented in the field. Erin Meyer, director of conservation programs and partnerships for the aquarium, supervises Hampton. She says, "The aquarium has been on its own journey of DEI, internally and programmatically. Hosting this fellowship is putting intention behind our work and has provided the opportunity to begin building a network of Washington ocean advocates that represent the diversity of people in our state."

WSG is expanding its fellowships in other areas as well. In an effort to extend marine science opportunities to undergraduates, WSG introduced the new Undergraduate Science Communications Fellowship last year. This fellowship allows undergraduates from around the state to build a writing portfolio and apply their science writing skills beyond academia—to platforms such as videography, blogging and social media. Communicating science well is a foundational skill for any budding scientist because it is critical to educate the public so that they can make informed decisions on issues such as sea level rise, harmful algal blooms and climate change.

The original Science Communication Fellowship was designed for both graduate and undergraduate students. MaryAnn Wagner, WSG assistant director for communications said, "We noticed that undergraduates were competing against graduate students for the same fellowship slots, creating an uneven playing field.



Adrienne Hampton

WSG is asking hard questions about how to expand its fellowship programs, such as: What are the barriers potential applicants may face?

FELLOWS • CONTINUED ON BACK PAGE

MARINE AFFAIRS WORK IS M

HOW THE WSG DIVERSITY, EQUITY AND INCLUSION WORKGROUP STRIVES T

WSG DIVERSITY, EQUITY AND INCLUSION VALUES

To achieve organizational excellence, pursue its vision, and adhere to its mission, WSG maintains a commitment to diversity, equity and inclusion by pursuing diverse perspectives and enhancing cultural understanding. WSG works to create equitable access to resources and opportunities for Washington's diverse communities and seeks to incorporate their voices and priorities. WSG's values are informed by environmental justice and are based in a culture of inclusion, respect, long-term engagement and accountability. WSG's commitment to diversity, equity and inclusion shapes the organization and its investments, practices and social interactions.

Specifically, WSG strives to:

- ◆ create a welcoming environment, so that each person feels accepted, valued and safe;
- ◆ build community and learn from each other, honoring differences in background, experience, skills, interests and values;
- ◆ ensure the right of all people to live and work in a clean environment;
- ◆ address root causes of unequal exposure to environmental hazards and eliminate disparities in access to natural resources, opportunities and decision-making processes; and
- ◆ nurture an atmosphere that encourages open, honest and respectful exchanges.

BY SALLIE LAU, GUEST STUDENT WRITER

"SO, ARE YOU SAYING, I can't just count fish anymore?"

My colleague voiced this question while I was speaking about how racial inequality and its theoretical underpinnings are intricately tied to how I navigate my personal and professional life. It hurt to hear him ask the question because I have found that if you're not part of the dominant culture, you can't just count fish—there are many other burdens to carry. As an international student of color, I think about whether my Master of Marine Affairs program is meant for people like me every day. My colleague, a white man, has the privilege to not have to do this kind of thinking. He cares about diversity, equity and inclusion. He just doesn't want to think about these things while on the job.

This is a common perspective in the world of marine science and policy. But, if you don't think about and act on racial equity, or indeed, any kind of equity in the workplace, it becomes difficult for people of color and other minorities to be active participants in that work. Many groups, such as the Diversity, Equity and Inclusion (DEI) workgroup at Washington Sea Grant (WSG), recognize this and are taking steps to incorporate DEI principles and best practices into marine work.

People of color and other minority groups are often underserved and under-represented in the environmental field. In 2017, people of color earned just 29.8 percent of bachelor's degrees in environmental science. According to a report by an environmental diversity initiative called Green 2.0, people of color only make up 12-16 percent of employees in mainstream environmental NGOs, foundations and government agencies.

These statistics have real impacts. When people of color and other minority groups are equitably represented and included in our field, we are better able to find solutions that are appropriate for local communities. We create a space where everyone can feel welcome. We empower youth to explore more career options. It is critical that we are here.

At WSG, Melissa Watkinson, Kate Litle and Karen Morrill-McClure, along with other staff members, started a DEI workgroup 1.5 years ago.

The workgroup, founded on the principle of being able to bring one's whole self to work, started off as an informal invitation of "Hey, let's talk about inclusivity!" Since then, the workgroup has created a vision of what a DEI-centered WSG would look like in ten years, and they have created a roadmap to achieve that vision. Additionally, four subgroups were created to support the implementation of WSG's DEI values: tribal relations, roadmap navigation, resources and training, and employee and advisory development.

The DEI Workgroup is comprised of more than half of WSG staff, including those pictured here. Clockwise: Melissa Watkinson, Russell Callender, Maile Sullivan, Melissa Poe, Karen Morrill-McClure, Meg Chadsey, Deborah Purce, Kate Litle



MORE THAN COUNTING FISH

WAYS TO CHANGE MARINE FIELDS

The workgroup has gone from talking about broad visions that address topics, such as hiring and recruitment, accountability, transparency, and acknowledging multiple ways of knowing, to focusing on more specific issues, such as sexual harassment in the workplace and the field, inclusion of trans and non-binary folks, and how to act as an ally when a microaggression occurs. Another issue of importance is bringing people into the conversation about diversity. To do so, WSG has monthly rotating workgroup members who serve as a “DEI Discussion Partner,” the go-to person when people have questions about DEI.


“People do feel uncomfortable when we have these conversations,” says Morrill-McClure. “And anything that encourages people to step up and have these discussions is good. Most of our discussion partners start with ‘I don’t know much. But I’m willing to have this conversation with you.’ We want this to be a space to make mistakes and learn from these mistakes.”

When people feel more confident in addressing DEI issues within their own workplace, they’re going to become more confident in having these conversations with other organizations and partners. “These individuals are encouraging other decision makers to implement aspects of DEI,” says Watkinson. “I think that’s where we’ve made a big impact so far.”

This internal work is important for WSG, which does outreach to coastal communities and seeks to recruit a more diverse marine workforce. “Sometimes you want to go out and suddenly reach diverse communities, but I think you have to do some work within the organization because there’s a reason that the organization looks like it does and is working with the people it has been working with,” says Morrill-McClure.

Across the street from WSG at the University of Washington School of Marine and Environmental Affairs, a need for allyship and for amplifying minority student voices catalyzed a student-led effort—including myself—to create the Diversity Forum. We wanted to bring students together to discuss, learn and act upon issues of equity and the structures of oppression some of us face every day. Quickly, we found that the Diversity Forum allows our message of “we value you and what you bring to this community” to be visible. “If you’re coming in, and you’re the only person who has a certain perspective, the Diversity Forum’s existence tells you that even if we do not have people who have the same viewpoint as you do, there are people who know what it’s like to have other viewpoints and who will support and help you,” says Forum member Ian Stanfield.

A groundswell of other organizations is joining in this work as well. The National Sea Grant College Program has created a DEI community of practice; the Washington Environmental Council has a program that invites all staff members to think about different aspects of racial equity; and The Nature Conservancy in Washington just posted a new equity statement that, in part, acknowledges the past harms the organization has caused communities.

Some of these organizations are planning to come together to share best practices in advancing DEI. It’s exciting, because while there has long been a lot of talk, people have seen many cycles where not much has changed. Now, those in the environmental field are saying: we need to do something about the lack of diversity and inclusion in our field, and we are taking tangible steps to get there. 

TERMS AND DEFINITIONS

DIVERSITY: Demographic representation and appreciation of individual, social, economic, and cultural differences. WSG embraces individuals of all ages, races, ethnicities, national origins, gender identities, sexual orientations, abilities, cultures, religions, citizenship statuses, marital statuses, education levels, job classifications, veteran status, income, and socioeconomic statuses.

EQUITY: A state, quality, or ideal of being fair and just. WSG is committed to fair and just opportunities for all persons. WSG works to challenge and respond to bias, harassment and discrimination.

INCLUSION: A state, quality, or ideal of being a part of a group or structure where the inherent worth and dignity of all people are recognized and respected. WSG is committed to building inclusive programs that serve people with unique backgrounds, needs, perspectives, and ways of knowing. WSG cultivates a sense of belonging among all staff, partners, and communities served.

WSG DEI ROADMAP GOALS

- ◆ WSG commits to DEI in carrying out its vision and values as a practice in organizational excellence.
- ◆ WSG is welcoming and inclusive.
- ◆ WSG attracts, retains, and advances a diverse workforce and leadership.
- ◆ WSG maintains accountability and transparency in its sustained focus on DEI.
- ◆ WSG supports regular training and professional development on various aspects of DEI.
- ◆ WSG provides programming that facilitates sound, science-based decision-making that supports equal access to relevant scientific information.
- ◆ WSG provides programming that facilitates sound, place-based decision-making based on relevant traditional and local knowledge.
- ◆ WSG leads research and scholarship that addresses topics of value to diverse communities and includes interdisciplinary scientific approaches and multiple ways of knowing.
- ◆ WSG research and program development funding is inclusive of diverse and underrepresented awardees.
- ◆ WSG trains and educates an environmentally literate and informed public that is inclusive and reflective of diverse populations.
- ◆ WSG professional development and fellowship programs prepare the next generation of decision-makers and environmental professionals that is reflective of diverse populations.
- ◆ WSG prepares a marine workforce that is inclusive and reflective of diverse populations.
- ◆ WSG communications create and support cross-cultural, equitable, and accessible information pertaining to the marine environment.

FIELD NOTES



The Coastal Hazards Resilience Network—a partnership among WSG, the Washington Department of Ecology, and others—launched a new and improved website in March. **Jackson Blalock**, WSG community engagement specialist; **Sonni Tadlock**, a WSG Hershman Fellow working at the Washington Department of Ecology; and others made the new website a reality after nearly two years collaborating with partners. The website and associated interactive map were products born from the Washington Coastal Resilience Project that offer users a way to learn about coastal hazards science with the hopes that, through education and understanding, coastal disasters might be reduced. Explore the website at: www.WAcoastalnetwork.com

The COVID-19 pandemic has impacted all of us, and WSG is no exception. However, WSG is a strong and resilient team of dedicated professionals. We are 100 percent committed to the Sea Grant mission and want to do everything that we can to support our constituents in this difficult time. We also recognize that the challenges and demands upon our coastal and shoreline ecosystems remain, and our science, outreach and education programming as well as our communications services will continue to be needed. Though our staff is currently teleworking, Sea Grant is still open for business, and we will continue to support the needs of our state.



A warm welcome to **Amy Linhart**, who joined WSG as the Crab Team coordinator. She previously worked with WSG in 2016 as the science communications fellow while she was a graduate student at the UW School of Marine and Environmental Affairs. WSG also welcomes **Nancy Nguyen** as a permanent member of WSG staff supporting the Olympic Region Harmful Algal Bloom and SoundToxins programs.



More than 125 guests—including representatives from 13 Pacific Northwest tribal nations, students and leaders from Northwest Indian College, and many more Indigenous stewards from across the globe—gathered at the Kāko 'o Ōiwi farm and He'eia fishpond on Oahu to learn about traditional Hawaiian aquaculture practices and technologies in February. The gathering was a catalyzing event for a three-year NOAA grant led by WSG in coordination with Hawaii Sea Grant, Alaska Sea Grant and respective community partners. **Melissa Poe**, WSG project lead and WSG social scientist, attended the event, along with director **Russell Callender** and assistant director for communications **MaryAnn Wagner**.

Want to read these stories online or get more regular updates from WSG? Sign up for our email newsletter! Select WSG News here: bit.ly/sea-star-news



In February, four WSG staff—**Sarah Fiske**, **MaryAnn Wagner**, **Kate Little** and **Russell Callender**—attended the second annual Seafood Day in Olympia, where over 300 state representatives and their staff sampled a variety of local Washington seafoods between sessions. This event, organized by Dale Beasley, president of the Coalition for Coastal Fisheries, along with many other fishermen, showcased shrimp cocktail, fresh-caught crab, oysters on the half shell, steamed clams, clam chowder with razor clams, and baked and smoked salmon—all harvested or caught just off the Washington coast. This event was held as a cooperative effort by local fishermen and shellfish growers to highlight the importance of supporting these industries, which are critical to Washington's economy and cultural heritage.



WSG Crab Team, led by **Kate Little**, **Emily Grason**, **Jeff Adams** and **Sean McDonald**, earned \$200,100 of additional funding from the Washington State Legislature for European green crab monitoring and management. These funds will be used to support increased efforts to trap and remove green crabs in Drayton Harbor and Lummi Bay and to expand monitoring and assessment efforts on the coast in collaboration with shellfish growers, tribes, and community and agency partners. This important windfall is in addition to the \$200,000 per year that WSG Crab Team receives from the state legislature.



WSG hosted a three-day Seaweed Farming Intensive Training in February organized by WSG ocean acidification specialist **Meg Chadsey**, with help from marine water quality specialist **Teri King**, shellfish aquaculture specialist **Alex Stote**, and others. The intensive training provided aspiring seaweed farmers and entrepreneurs with information on everything from selecting a farm site to securing an aquaculture permit and even how to market a seaweed product and manage a business. The intensive training was a follow-up to the introductory workshop WSG held last November.

RIPARIAN REHAB GETS A BOOST

ENGINEERED LOG JAMS COULD BE AN IMPORTANT TOOL FOR SALMON RESTORATION

BY BOBBIE BUZZELL, WSG SCIENCE COMMUNICATIONS FELLOW

EFFORTS IN WASHINGTON STATE TO re-establish salmon populations and riparian habitat have been underway for quite some time—about 30 to 40 years. Yet time itself still proves to be the biggest hurdle to this work. Planting trees is essential to restoring salmon populations because roots stabilize stream banks and fallen trees create cool pools where salmon can take refuge from warm waters. However, it requires decades and even centuries for old growth forests to return and re-establish healthy vegetation alongside rivers. So, how can riparian rehabilitation be given a shorter-term “boost” while other strategies are allowed to run their course?

With funding from Washington Sea Grant (WSG), James Helfield, a professor at Western Washington University (Western), has been studying one such solution. Engineered log jams (ELJs) are structures built from wood, sediment and other materials that are installed into rivers to increase channel stabilization and encourage the development of deep pools of cool water. These pools provide a refuge for salmon where they can take cover from predators and find shelter during periods of heightened river temperatures. ELJs are already commonly employed in restoration efforts and could become especially important for salmon in the coming years of climate change. However, the effectiveness of this method has not been well-studied until recently.

Log jams work by redirecting stream flow, which scours the riverbed to create deep pools and an uneven topography. Variable topography promotes what is called “hyporheic exchange,” where shallow groundwater mixes with the lower layers of stream water. Hyporheic exchange sustains a stream flow resilient to temperature changes, and the consistent input of cool water is often sought out by heat-stressed salmon.

While ELJs have been used for several decades now, very little monitoring has been conducted on the boost of hyporheic exchange in these man-made pools. The Nooksack Indian Tribe began monitoring the impact of structures they had built in 2007, but their data collection was somewhat limited. Treva Coe, who manages the Habitat Program for the Nooksack Tribe, says, “We had already shown through our work that log jams form deep pools with complex cover... but our limited temperature monitoring proved inconclusive.”

With funding from WSG awarded in 2016, Helfield worked in collaboration with the Tribe to institute more robust monitoring of the ELJs that the Tribe had installed in 2016 and 2018. While the Tribe also collected pre-restoration data for a baseline, what has set this project apart from other monitoring assessments was the ability to collect more intensive, fine-scale


monitoring data for both before and after ELJ implementation.

“One year of pre-restoration data is worth three years of post-restoration data,” Helfield says.

Comparing before and after periods is important for understanding the true effectiveness of restoration efforts, but these data didn’t come without some bumps in the road. The withdrawal of landowner support resulted in four fewer plots with ELJs that would have provided pre- and post-log jam data. In the end, Helfield saw a potential gain from this “happy accident.” The absence of these ELJs meant the plots could serve as controls, or rather a documentation of natural stream change where ELJs would otherwise have been installed, providing greater insight into the impacts of ELJs.

Helfield’s project also aimed to address another issue — the need to train the next generation of fisheries scientists and restoration practitioners. Students from Western were provided opportunities to build the necessary skills to do this work. Niki Aldan, one of the former technicians who graduated last June, is currently employed as a technician with the Washington Department of Natural Resources. She says the project gave her the opportunity to contribute directly to the problem solving that goes into collecting field data, which is a duty often reserved for higher ranking scientists. Sydney Jantsch, another former technician, says “I absolutely believe that the skills I acquired working on this project are something more students should acquire while they are undergrads.” Over the course of the project, Helfield has trained 10 Western students who have all gained invaluable knowledge and expertise in proper stream assessment methods.

After several years of pre- and post-log jam data collection, the results look very promising. Most of the established ELJs have been successful in creating pockets of deep water that are actively used by salmon. “Perhaps even more important than documenting effectiveness, this project has helped characterize the mechanism by which log jams create temperature refuges,” says Coe. In the future, this kind of information could prove extremely helpful when incorporating log jam design improvements—improvements that could boost the structures’ effectiveness over time.

Although there is still some wait time involved with pool development after ELJs are installed, ELJs are a proven strategy for providing relatively immediate relief to heat-stressed fish. Paired with other short and long-term restoration methods, things might just start looking up for salmon. 



Members of Helfield lab out in the field. Photo courtesy of James Helfield

ELJs are already commonly employed in restoration efforts and could become especially important for salmon in the coming years of climate change.



UNIVERSITY of WASHINGTON

Washington Sea Grant
College of the Environment
University of Washington
Box 355060
3716 Brooklyn Avenue NE
Seattle, WA 98105-6716



SEAGRANT@UW.EDU
WSG.UW.EDU
TWITTER: @WASEAGRANT
FACEBOOK.COM/WASEAGRANT
INSTAGRAM: @WASEAGRANT

Editor, Samantha Larson; Designer, Robyn Ricks; Assistant Director for Communications, MaryAnn Wagner; Technical Advisor, Karen Morrill-McClure. © Washington Sea Grant; all photos WSG except as noted. ©WSG-MR 20-1, volume 1

Nonprofit
Organization
U.S. Postage
Paid
Seattle, WA
Permit No. 62

FELLOWS • CONTINUED FROM PAGE 3


I realized that we were in a position to correct that scenario by creating a distinct fellowship open only to undergraduates.” She also noted that paid internships or fellowship opportunities for undergraduates are very limited. Many recent college graduates leave school with a degree and a steep debt, but few real-world skills—which even entry-level positions often require. Through the WSG Undergraduate Science Communication Fellowship, students can get experience that will give them a head start when applying for jobs once they graduate.



Andrew Chin

Andrew Chin, a UW undergraduate in marine biology, was the first student selected for the undergraduate fellowship. Chin went on to become editor-in-chief of *Field Notes*, a campus online communications publication, where he says he “applies a lot of the skills learned through the WSG fellowship.”

To further expand the science writing opportunities for graduates, the UW College of the Environment recently partnered with WSG to create their own Science Communications Fellowship program, modeled after WSG’s program. In the first cycle, they accepted three fellows.

The creation of these three fellowships — the Undergraduate Science Communication Fellowship, the UW College of the Environment Science Writing Fellowship and the WSG Keystone Fellowship — is a great start for providing professional opportunities to a more diverse set of students. For many students, this is their first chance to apply their knowledge in a realistic setting, and attaining the fellowship can give them a greater competitive edge. “The internal work is what influences the external outputs,” Hampton says. “Sea Grant is utilizing its power to take action.” 



CONGRATULATIONS TO ORCA BOWL 2020 WINNERS: NEWPORT HIGH SCHOOL TEAM A!

The annual event, organized by Maile Sullivan, WSG education specialist, was fun-filled and high energy, with many teams and volunteers in marine-themed



Maile Sullivan

costumes, including pirates and sea creatures. Garfield High School clinched the second-place spot and Ocean College Research Academy secured third place. Moses Lake High School received the Megan Vogel Sportsmanship Award for its team’s positive attitude and spirit throughout the competition. 